## REMARKS

Claims 1-14 and 17 are pending in this application.

By this amendment, Applicants amend claim 6 to correct an informality in regard to antecedent basis, and not for reasons related to patentability. Applicants amend claim 7 to correct a typographical error, and not for reasons related to patentability.

### Objections to Claims 6 and 9

The Examiner objected to claims 6 and 9 because of informalities. The Examiner indicated that, in claim 6, lines 3 and 5, and in claim 9, line 4, "an initial" should be "the initial."

Claims 6 is amended to change "an initial" to "the initial." This amendment is believed to overcome the Examiner's objection to claim 6. However, the recitation of "an initial" in claim 9 does not have antecedent basis in claim 9 or claim 7, from which claim 9 depends, and therefore is proper. Applicants request withdrawal of the objection to claim 9.

### §112, Second Paragraph, Rejection of Claim 9

The Examiner also rejected claim 9 under 35 U.S.C. §112, second paragraph, asserting that "demodulated sub signals" does not clearly indicate a kind of signal. The Examiner asserts, "[i]n the independent claim 7, there are demultiplexed main signal and sub signals, deinterleaved demultiplexed main signal, and decoded deinterleaved main signal recited" (Office Action, pg. 3, paragraph 1). However, "demodulated sub signals," as recited in claim 9, clearly refers to the "sub signals" recited in claim 7, from

which claim 9 depends.  Claim 9, as written, is clear and definite, and the rejection under 35 U.S.C. §112, second paragraph, should be withdrawn.

### §103(a) Rejection of Claims 1-4, 6-12, and 14 over *Park et al.* and *Klank et al.*

Applicants respectfully traverse the rejection of claims 1-4, 6-12, and 14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,470,030 B1 to Park et al. ("*Park et al.*") in view of U.S. Patent No. 6,330,293 B1 to Klank et al. ("*Klank et al.*").

To establish a *prima facie* case of obviousness under §103(a), each of three requirements must be met.  "First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art," to combine references or modify a reference.  MPEP § 2143 (8th ed. Rev. Feb. 2003).  Second, a reasonable expectation of success must exist that the proposed modification will work for the intended purpose.  *Id.*  Moreover, both of these requirements must "be found in the prior art, not in applicant's disclosure."  *Id.*  Third, the reference or references, taken alone or in combination, must disclose or suggest every element recited in the claims.  *Id.*

Claims 1-4, 6, and 14 are allowable over *Park et al.* and *Klank et al.* because these references do not teach or suggest, alone or in combination, each and every element of independent claim 1, from which claims 2-4, 6, and 14 depend.  For example, *Park et al.* fails to teach or suggest "a digital broadcast receiving apparatus" comprising, inter alia, "a random sequence generating circuit for generating said PBRS based on the initial value set in accordance with the frequency of said broadcast channel," as recited in claim 1.

Instead, *Park et al.* discloses an orthogonal frequency division multiplexing (OFDM) receiver system for receiving a transmission signal that comprises frames. "In addition to the transmitted data, the OFDM transmission frame includes scattered pilot cells (SPC), continual pilot carriers (CPC), transmission parameter signaling pilots (TPS), etc." (col. 1, lines 7-55) The OFDM receiver system includes a "Fast Fourier Transform (FFT) processor 710" and a "rearrangement memory 720" that constitute a "pilot signal decoding section 700." (col. 3, lines 44-63) An "equalizing and deinterleaving section 600" has a "channel equalizer 640" that "receives the received SPC and the SPC reference value (REF) of the corresponding SPC position from the rearrangement memory 720 of the pilot signal decoding section 700, and performs channel equalization ..." (col. 14, lines 55-61; Fig. 13) The Examiner acknowledges that "Park does not explicitly specify the pseudo-random binary sequence (PRBS) in the pilot signal decoding section of the OFDM system." (Office Action, pg. 4, paragraph 4)

*Klank et al.* does not make up for the deficiencies of *Park et al.* because *Klank et al.* also fails to teach or suggest "a random sequence generating circuit for generating said PBRS based on the initial value set in accordance with the frequency of said broadcast channel," as recited in claim 1. Instead, *Klank et al.* discloses a method for receiving multicarrier digital signals (Field of the Invention). The value or contents of the scattered and continuous pilot signals are derived, for example, from a pseudo-random binary sequence $W_k$ for each of the transmitted carriers k. The sequence $W_k$ may also define the start phase of the TPS carrier information." (Col. 1, lines 50-55).

However, deriving "value or contents of ... pilot signals ... from a pseudo-random binary sequence $W_k$ for each of the transmitted carriers k," (col. 1, lines 52-53) as

disclosed in *Klank et al.*, does not constitute "generating said PBRS based on the initial value set in accordance with the frequency of said broadcast channel," as required by claim 1. The disclosure in *Klank et al.* that "[t]he sequence $W_k$ may also define the start phase of the TPS carrier information" (col. 1, lines 53-55) also does not constitute "generating said PBRS based on the initial value set in accordance with the frequency of said broadcast channel."

Claims 7-12 are allowable over *Park et al.* and *Klank et al.* because these references do not teach or suggest, alone or in combination, each and every element of independent claim 7, from which claims 8-12 depend. For example, *Park et al.* fails to teach or suggest "a digital broadcast receiving apparatus" comprising, inter alia, "a deinterleaving circuit for deinterleaving said demultiplexed main signal using the parameter set in accordance with the frequency of said broadcast signal," as recited in claim 7.

For example, "the received SPC and the SPC reference value (REF) of the corresponding SPC position," as disclosed in *Park et al.*, do not constitute "the parameter" recited in claim 7 for at least the reason that *Park et al.* fails to teach or suggest that "the received SPC and the SPC reference value (REF)" are "set in accordance with the frequency of said broadcast signal," as required by claim 7 (emphasis added).

*Klank et al.* does not appear to make up for the deficiencies of *Park et al.* The Examiner only relies on *Klank et al.* to allegedly disclose that "the pilot signals are derived from a pseudo-random binary sequence (PRBS) $W_k$ for each of the transmitted

carriers" (Office Action, pg. 4, paragraph 4). Thus, claim 7 and claims 8-12, which depend from claim 7, should be allowed over *Park et al.* and *Klank et al.*

### §103(a) Rejection of Claims 5 and 13 over *Park et al., Klank et al., Mitsubori et al.*

Applicants respectfully traverse the rejection of claims 5 and 13 under 35 U.S.C. §103(a) as being unpatentable over *Park et al.* in view of *Klank et al.* as applied to Japanese Patent Publication 11-145929-A to Mitsubori et al. ("*Mitsubori et al.*").

Claims 5 and 13 are allowable over *Park et al.* and *Klank et al.* for at least the reason that claims 5 and 13 depend from claims 1 and 7, respectively, which are allowable over *Park et al.* and *Klank et al.* for the reasons explained above. The Examiner only relies on *Mitsubori et al.* for the limitations recited in dependent claims 5 and 13. Thus, claims 5 and 13 should be allowed over *Park et al.*, *Klank et al.*, and *Mitsubori et al.*

### CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: November 30, 2005                    By:_____

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